

Papers of the Southeastern Society of Plastic and Reconstructive Surgeons

1 **The History of the Southeastern Society of Plastic and Reconstructive Surgeons** **Anthony J. Pizzo, MD, FACS**

The 40-year history of SESPRS is chronicled from the time of its founding by 25 original members.

7 **Prevention of Unfavorable Scars Using Early Pulse Dye Laser Treatments: A Preliminary Report** **John B. McCraw, MD, FACS**
J. Andrew McCraw, MPH
Ann McMellin, CST
Natalie Bettencourt, BS

One hundred seventy-one surgical scars were treated in the early postoperative period with the 585 nm pulse dye laser. Very good to excellent results were seen in early resolution of stiffness and redness, color match, and prevention of inversion and spreading.

15 **35 mm Film vs. Digital Photography for Patient Documentation: Is It Time to Change?** **Gregory S. DeLange, MD**
Mario Diana, MD

Digital photography is superior to 35 mm film for plastic surgical documentation because it is less expensive, more easily stored and retrieved, and more easily viewed and imaged. However, initial costs are higher, and the sharpness of the image is slightly less in digital format.

21 **Combination Therapy: Utilization of CO₂ and Erbium: YAG Lasers for Skin Resurfacing** **Sherry S. Collawn, MD, PhD**

The Erbium laser is recommended for fine wrinkles and discolorations, the CO₂ laser for deeper rhytids. For moderate rhytids, best results may be achieved using a single pass with the CO₂ laser followed by multiple passes with the Erbium laser.

27 **The Mastectomy Specimen as a Model for TRAM Flap Fabrication in Immediate Breast Reconstruction** **Onelio Garcia, Jr, MD, FACS**

Forty immediate TRAM flap breast reconstructions were performed using the mastectomy specimen as a model with a sterile towel template. All tailoring for size, shape, and orientation was performed on the abdomen, thus eliminating time-consuming manipulations on the chest.

34 **Wound Complications of Abdominoplasty in Obese Patients** **Victoria Vastine, MD**
Raymond F. Morgan, MD
Gaylord S. Williams, MD
et al

A retrospective review of 90 abdominoplasties demonstrated that 80% of obese patients had postoperative complications, compared to 33% and 32.5% of borderline and nonobese patients, respectively. Prior bariatric surgery had no independent effect on the complication rate.

40 Functional Outcomes of Microsurgical Reconstruction of Delayed Complications Following Head and Neck Cancer Ablation

Among 13 patients undergoing free flap reconstruction of head and neck cancer defects on a secondary basis, greatest improvement was seen in closing wounds and in correcting oral incontinence. Although useful for the correction of residual defects, delayed free flap reconstruction was inferior to immediate reconstruction.

Bruce A. Mast, MD

46 A New Technique for the Treatment of Flexor Digitorum Profundus Tendon Avulsion

Avoiding nailbed injury and the need for a button, correction of profundus tendon avulsion is performed by direct transosseous suturing at the base of the distal phalanx.

Raymond O. Schultz, MD
David B. Drake, MD
Raymond F. Morgan, MD

Original Articles

49 Clinical Application of a Nonpenetrating Microvascular Stapling Device for Vascularized Free Tissue Transfer

A nonpenetrating microvascular stapling device was applied clinically for end-to-end arterial and venous anastomoses in eight free flap transfers. The stapler quickly accomplished its task in all but two arteries whose walls were too thick to be everted.

Naoto Yamamoto, MD
Hiroyasu Nakai, MD
Yuko Satoh, MD
Yoshio Oshima, MD

56 Predictors of Patient Satisfaction in an Outpatient Plastic Surgery Clinic

Ninety-five percent of 345 consecutive patients filled out a validated questionnaire after attending a university outpatient plastic surgery clinic. Significant predictors of satisfaction included the physician's personal manner, the time spent with the physician, the length of time to get the appointment, and the explanation of what was done.

Kevin C. Chung, MD, MS
Jennifer B. Hamill, MPH
Hyungjin Myra Kim, ScD
et al

61 Helical Crus Reconstruction Using a Postauricular Chondrocutaneous Flap

Seven patients with helical crus defects were successfully reconstructed using postauricular chondrocutaneous flaps based on a subcutaneous pedicle containing the postauricular vessels.

Takatoshi Yotsuyanagi, MD, PhD
Satoshi Urushidate, MD
Yukimasa Sawada, MD, PhD

67 Autologous Latissimus Breast Reconstruction in Association with the Abdominal Advancement Flap: A New Refinement in Breast Reconstruction

Fifty women underwent breast reconstruction using the combination of a thoracoabdominal advancement flap and a latissimus musculocutaneous flap containing maximal subcutaneous fat. Recruitment of abdominal skin permitted total resection of the latissimus skin paddle in 80%, and an implant was required in only 20%.

Emmanuel Delay, MD
Franck Jorquera, MD
Patricia Pasi, MD
Anne-Christel Gratadour, MD

76 **Callostasis in a Fascioosteal Flap Model in Rabbits: Part II. A New Contribution to the Concept of Distraction Osteogenesis**

A distraction osteogenesis model using the rabbit third metacarpal demonstrated that bone formation occurred only in the presence of periosteum.

Ömer Refik Özerdem, MD
Metin Yavuz, MD
Önder Kivanç, MD
et al

Case Reports

83 **Bipedicled Submental Island Flap for Upper Lip Reconstruction**

Takeshi Kitazawa, MD
Takao Harashina, MD
Hiroyuki Taira, MD
Ako Takamatsu, MD

87 **Surgical Treatment for Greater Sphenoid Wing Fracture (Orbital Blow-in Fracture)**

Nobutaka Yoshioka, MD
Yoshiko Tominaga, MD
Hisashi Motomura, MD
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92 **Retrograde Intra-arterial Infusion of Prostaglandin E1 and Heparin for No-reflow Phenomenon After Oromandibular Reconstruction with a Free Fibular Flap**

Yoshinori Hataya, MD
Kiyoshi Matsuo, MD
Mashayoshi Ishigaki, MD
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96 **Malignant Triton Tumor of the Maxilla: A Patient Report**

Zeki Can, MD
Aydin Saray, MD
Sarper Yilmaz, MD
et al

100 **Chondroid Syringoma of the Orbit**

Takeshi Kitazawa, MD
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Kiyoshi Matsuo, MD

103 **The Intra-areolar Incision for Breast Augmentation**

Hilton Becker, MD, FRCS, FACS

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Paul L. Schnur, MD

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109 **Upper Lip Flap for Restoration of Nasal Lining in Full-thickness Nasal Defects**

Jeffrey D. Wagner, MD

110 **Re: Endometrioma of the Abdominal Wall Following Combined Abdominoplasty and Hysterectomy: Case Report and Review of the Literature**

Sukh Rayatt, FDS, FRCS
Geoffrey Wilson, FRCS

111 **Book Reviews**
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Original Articles

117 **Elemental Analysis and Clinical Implications of Calcification Deposits Associated with Silicone Breast Implants**
Infrared spectroscopy of 29 calcified breast capsules demonstrated all concretions to be calcium complexed to tribasic phosphate. Baseline mammography is recommended shortly after explantation in order to document the presence of high density calcifications in capsular remnants.

Dominic S. Raso, MD
William B. Greene, PhD
Victor F. Kalasinsky, PhD
et al

124 **Reconstruction of the Proximal Interphalangeal Joint Collateral Ligaments Using the Mitek Micro Arc Anchor: An In Vitro Biomechanical Assessment**
In cadaver PIP joints, repair of collateral ligaments using the Mitek Micro Arc Anchor resulted in breaking strengths equivalent to those of sutured repairs.

Steven F. Morris, MD, MSc, FRCS(C)
Daping Yang, MD
Andrew D. Milne, MSc, P.Eng
Brian A. Smyth, MASc, P.Eng

129 **Full-thickness Skin Graft from the Ulnar Aspect of the Wrist to Cover Defects on the Hand and Digits**
Eight syndactylies and 12 burn contractures were corrected using full-thickness skin grafts from the ulnar aspect of the wrist. Advantages of the donor site include convenience, size (especially in infants), and availability of both glabrous and nonglabrous skin.

Susam Park, MD
Yuuro Hata, MD
Osamu Ito, MD
et al

132 **Serratus Anterior-Rib Composite Flap: Anatomic Studies and Clinical Application to Hand Reconstruction**
An arteriographic cadaver study demonstrated abundant communicating vasculature between the serratus anterior muscle and the 6–9th rib periosteum near the anterior axillary line. Two clinical first metacarpal reconstructions were successfully performed using this osteocutaneous unit.

Kenneth C. W. Hui, MD
Feng Zhang, MD, PhD
William C. Lineaweaver, MD
et al

137 **The Extended Deep Inferior Epigastric Flap: A Case Series**
The extended deep inferior epigastric flap was successfully applied in the reconstruction of seven large wounds of the lower torso, groin, perineum, and thigh.

Dale Classen, MD, FRCSC

142 **Submucous Cleft Palate: A 10-Year Series**

A review of 29 consecutive submucous cleft palate repairs (including 19 Furlow procedures) demonstrated excellent speech results in 96%. Furlow procedures had successful speech outcomes when the velopharyngeal gap was 8 mm or less.

M. Brent Seagle, MD
C. Stephen Patti, MD
William N. Williams, PhD
Virginia Dixon Wood, MA

149 **Augmentation of the Nasal Floor With Surgicel in Primary Lip Repair: A Prospective Study Showing No Efficacy**

A prospective study of 64 primary unilateral incomplete cleft lip repairs demonstrated no osteogenic benefit of subperiosteal Surgicel implantation into the nostril floor.

Philip K. T. Chen, MD
Vincent K. L. Yeow, MBBS(Sing.), FRCS(Ed.), FRCS(Glasg.)
M. Samuel Noordhoff, MD
Yu-Ray Chen, MD

154 **Pierre Robin Syndrome: Mandibular Growth During the First Year of Life**

Measurements in seven Pierre Robin patients from birth to one year of age demonstrated no sign of the proportional “catch-up” in mandibular growth that has been widely believed to occur.

Florine Vegter, MD
J. Joris Hage, MD, PhD
J. Wiebe Mulder, MD, PhD

158 **The Effect of Onlay Medpor Implants on Mandibular Growth in Young Rabbits: An Experimental Study**

Hard block Medpor implants placed adjacent to the mandibular periosteum in 4-week-old rabbits induced no alterations in growth symmetry over the next 3 months. However, minor surface deformities in the bone were frequently seen.

Figen Özgür, MD
H. Mete Aksoy, MD
Aycan Kayıkçıoğlu, MD
Macit Arıyürek, MD

163 **Prospective Comparison of Axial Computed Tomography and Standard and Panoramic Radiographs in the Diagnosis of Mandibular Fractures**

In a prospective series, 33 mandible fractures in 21 consecutive patients were evaluated by four blinded examiners using a standard mandible series, panoramic tomography, axial CT, and coronal CT. While the mandible series is an excellent screening tool, greater accuracy was seen using panoramic tomography and coronal CT.

Bernard L. Markowitz, MD
Jordan D. Sinow, MD
Henry K. Kawamoto, Jr, MD, DDS
et al

170 **Salvage of the Lower Leg Using a Reversed Long Free Fibular Flap**

Inverting the free fibula transfer allows the short feeding vessels to be anastomosed end-to-side to the readily accessible posterior tibial artery and saphenous vein in the distal leg, thus avoiding vein grafts.

Selçuk Akın, MD
Mesut Özcan, MD

174 **Omental Transfer to the Brain: An Experimental Study in Hydrocephalic Rabbits**

In a hydrocephalic rabbit model, a pedicled omental transfer to the brain readily absorbed subarachnoid CSF one month after placement.

David T. Morwood, MD
Larry S. Nicther, MD
Shigeyo Hyman, MS
et al

180 Dexamethasone Increases Survival and Attenuates Induction of Inducible Nitric Oxide Synthase in Experimental Skin Flaps

Using a rat ischemic dorsal flap model, preadministration of intraperitoneal dexamethasone resulted in improved flap survival and reduced Ca^{2+} -independent isoform nitric oxide synthase activity in the proximal part of the flaps at 24 hours. It is suggested that the decreased production of nitric oxide resulted in protection from tissue damage.

185 A New Flap Model in the Rat: The Pectoral Skin Flap

A large, reliable axial skin flap can easily be raised on the long thoracic vessels of the ventral surface of the rat.

Case Reports

193 Striae Distensae of Augmented Breasts After Oral Contraceptive Therapy, With Invited Discussion by Paul L. Schnur, MD, and Deborah J. White, MD

Yaron Har-Shai, MD
Ami Barak, MD
Amir Taran, MD
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196 Long-term Follow-Up of a Sponge Breast Implant and Review of the Literature

Brian S. Glatt, MD
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202 Cartilaginous Metaplasia in the Capsule of a Dacron-Backed Silicone Gel Breast Prosthesis

Mona Kamel, MD, FRCPC
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Walter Peters, PhD, MD, FRCSC

207 Repair of Large “Coup de Sabre” with Soft-Tissue Expansion and Artificial Bone Graft

Tomoaki Eguchi, MD
Kiyonori Harii, MD
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211 Endoscopically Assisted Removal of Unilateral Coronoid Process Hyperplasia

Emin Mavili, MD
Mustafa Akyürek, MD
Aycan Kayıkçıoğlu, MD

217 Acral Dermatofibrosarcoma Protuberans with Metastases

Paul J. Skoll, FRCS
Donald A. Hudson, FRCS
Deryk A. Taylor, MMed (Anat Path)

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221 A New Multiangle Goniometer

S. J. McCulley, FRCS

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223 Doctor of Arts and Letters

William D. Morain, MD

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225 **Re: Sentinel Lymph Node Mapping in Melanoma of the Ear** Oren Lapid, MD

225 **Complex Volar Dislocation of the Metacarpophalangeal Joint of the Thumb** Yuan-Qian Qiu, MD

226 **Recurrent Dermatofibrosarcoma Protuberans With Total Fibrosarcomatous Change** Galip Ağaoğlu, MD
Pınar Fırat, MD
Erhan Hamaloğlu, MD
et al

228 **Nuisance Nonhealing Ulcer of the Foot: Verruca Plantaris** Hüseyin Borman, MD
Tugrul Maral, MD

230 **Announcements**

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Original Articles

235 **The "Aesthetic Subunit" Principle in Late TRAM Flap Breast Reconstruction** Richard J. Restifo, MD
In delayed TRAM flap breast reconstruction, breast aesthetics are improved if aggressive resection is performed down to the level of the inframammary fold, replacing the missing tissue with a large abdominal skin paddle.

240 **Immediate Breast Reconstruction With the TRAM Flap After Neoadjuvant Therapy** Mark F. Deutsch, MD
Mark Smith, MD
Baoguang Wang, MD, PhD
et al
Thirty-one women underwent mastectomy and immediate TRAM flap reconstruction following a course of neoadjuvant chemotherapy. Although 55% had some form of postoperative complication, only two patients (both smokers) experienced a delay in resuming chemotherapy after the procedure.

245 **The Role of Endoscopy and Implant Texture in Transaxillary Submuscular Breast Augmentation** Paul S. Howard, MD
Fifty-eight consecutive transaxillary submuscular breast augmentations were performed with endoscopic assistance and placement of smooth-walled implants. Capsule contracture and implant malposition were each seen in 2%.

249 The Effect of Ruby Laser Light on Ex Vivo Hair Follicles: Clinical Implications
Ruby laser treatment of ex vivo scalp skin removed at face lift demonstrated mean depth of laser damage from 1.34 to 1.49 mm into hair follicles. The bulge regions sustained substantial injury, though the hair bulbs were undamaged, suggesting that permanent hair destruction would be unlikely using this modality.

255 Ruby Laser-Assisted Hair Removal: A Preliminary Report of the Correlation Between Efficacy of Treatment and Melanin Content of Hair and the Growth Phases of Hair at a Specific Site
Ruby laser depilation was performed on the face, body, and/or legs of 36 dark-haired white volunteers. Evaluation of results at three months showed no correlation with melanin content or proportion of hair in the growth phase, although response to multiple treatments was better among those with the darkest hair.

259 The Use of Tissue Expanders in Staged Abdominal Wall Reconstruction
Eleven patients with large abdominal defects were successfully reconstructed using prosthetic mesh and staged tissue expansion.

266 Evaluation of the Circulation of Reconstructive Flaps Using Laser-Induced Fluorescence of Indocyanine Green
Laser-induced fluorescence of indocyanine green accurately delineated the region of flap survival in 21 clinical cases. The technique is rapidly performed and may be repeated by bolus injection after as little as nine minutes.

275 Aeromonas Species Isolated from Medicinal Leeches
*Intestinal cultures from *Hirudo medicinalis* and *michaelseni* grew *Aeromonas hydrophila* as well as two other pathogenic *Aeromonas* species. Preincubating leeches for 12 hours in antibiotic solutions did not eradicate the pathogens from the leech intestines.*

280 Evaluation of Soft-Tissue Morphology of the Face in 1,050 Young Adults
Facial anthropometry was performed on 1,050 young adults from seven different geographic regions of Turkey. The average dimensions demonstrated variance from neoclassical proportions in showing greater retrodisplacement of the forehead and chin of the midface.

**Se H. Liew, FRCS
Addie O. Grobbelaar, FRCS
David T. Gault, FRCS
et al**

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David Gault, FRCS
et al**

**Christian E. Paletta, MD
David B. Huang, MD
Khashayar Dehghan, MD, PhD
Christine Kelly, MD**

**Joseph Still, MD
Edward Law, MD
John Dawson, MD
et al**

**Donald R. Mackay, MD
Ernest K. Manders, MD
Gregory C. Saggers, BS
et al**

**Hüseyin Borman, MD
Figen Özgür, MD
Güler Gürsu, MD**

289 Delayed Metastasis in Skin Cancer of the Head and Neck: The Case of the “Known Primary”

Twelve cases of regional metastasis from cutaneous head and neck squamous cell carcinoma and basal cell carcinoma occurred with an average free interval of four years and two months. Prolonged follow-up of nonmelanoma skin neoplasms is recommended.

Yoav P. Talmi, MD
Zeev Horowitz, MD
Michael Wolf, MD
Jona Kronenberg, MD

293 Formation of 4-Hydroxy-2-Nonenal-Modified Proteins and 3-Nitro-L-Tyrosine in Rat Island Skin Flaps During and After Ischemia

Using a rat ischemia/reperfusion island flap model, it was found that both reactive oxygen species and nitric oxide-induced peroxynitrite-mediated cytotoxicity were directly correlated with the length of the ischemic period. Both phenomena are seen early in reperfusion if the ischemic period is long.

Soon Chan Um, MD
Shigehiko Suzuki, MD
Shinya Toyokuni, MD
et al

299 Thrombogenic Stimulus Causes Long-term Decrease of Muscle Flap Perfusion

Using direct microcirculatory observations in a rat cremaster muscle flap model, the creation of a direct arterial thrombogenic insult resulted in a significant decrease in capillary perfusion despite the fact that red cell velocity and vessel diameter were unchanged.

Björn D. Krapohl, MD
Maria Siemionow, MD, PhD
Pia Piza, MS
et al

306 Endothelial Cell Growth Factor Enhances Musculocutaneous Flap Survival Through the Process of Neovascularization

Using an inferiorly based rat TRAM flap model, the intra-arterial or subcutaneous administration of endothelial cell growth factor resulted in increased surviving area of the skin paddle by enhancement of neovascularization.

Lee L. Q. Pu, MD, PhD
Syed Ahmed, MD, PhD
J. Grant Thomson, MD, MSc
et al

313 Angiotensin II Improves Random-Flap Viability in a Rat Model

In the McFarlane rat random flap model, intraoperative application of angiotensin II to the flap bed produced a dose-dependent increase in flap surviving area at day 12.

Naoki Okuyama, MD
Norma Roda, DVM
Randy Sherman, MD
et al

320 Topical and Systemic Calcium Channel Blockers in the Prevention and Treatment of Microvascular Spasm in a Rat Epigastric Island Skin Flap Model

Using ice vasospasm in a rat island free flap model, the systemic administration or anastomotic application of calcium channel blockers resulted in more rapid return of normal flap temperature. Verapamil was more effective than nifedipine in the study.

Norman Weinzweig, MD, FACS
Frederick Lukash, MD, FACS
Jeffrey Weinzweig, MD

Case Reports

327 An Unusual Case of Orbital Hydatid Cyst: A Surgical Emergency

Mustafa Zaidi, MD

330 **Flexor Tenosynovitis in the Hand Caused by *Mycobacterium terrae*** Joseph Fodero, MD
Kevin C. Chung, MD
Vladimir M. Ognenovski, MD

333 **An Unusual Case of Hypoglossia-Hypodactyly Syndrome** O. Koray Coşkunfirat, MD
Hifzi V. Velidedeoğlu, MD
Zühtü Demir, MD
Atilla Kurtay, MD

Tips and Techniques

337 **Delayed Primary Closure Using Silastic Vessel Loops and Skin Staples: Description of the Technique and Case Reports** Thomas P. Baum, RPA-C
Berish Strauch, MD

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341 **Ultimate X-File** William D. Morain, MD

Letters

343 **Re: Pursestring and Skin Excision in Gynecomastia** Isaac J. Peled, MD

343 **Use of Flap Skin as Graft Donor Site in the Reconstruction of Flap Donor Site Defects** İsmail Mithat Akan, MD
Bilge Türk Bilen, MD
Mehmetcik Ruşen Kapucu, MD
Selim Çelebioğlu, MD

344 **A New Approach in Anterior Maxillary Segmental Osteotomy** E. Mavili, MD
T. Səfak, MD
G. Tunçbilek, MD

346 **Announcements**

348 **Guidelines for Authors**

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Papers of the Northeastern Society of Plastic Surgeons

349 **Presidential Address: Plastic Surgical Workforce: Too Many or Too Few?** Mary H. McGrath, MD, MPH

In response to the cost-generated shift from specialist to generalist physician care, pressures exist to change the specialty training mix by altering patterns of GME funding. Numerous factors, including outcomes of care, will influence the decisions that determine the future workforce in plastic surgery.

357 **Endoscopic Subcutaneous Surgery: A New Surgical Approach** Steven J. Kronowitz, MD
Carbon dioxide insufflation was used to create an optical cavity for endoscopic surgery in the subcutaneous, fascial, and muscular planes. The effectiveness of the procedure was demonstrated in both the swine model and in clinical studies.

365 **Lateral Nasal Osteotomies: Implications of Bony Thickness on Fracture Patterns** Raymond J. Harshbarger, MD
 Patrick K. Sullivan, MD
Greenstick fractures in cadaver rhinoplasties were found to correspond in location to the thinnest regions of the nasal bones.

372 **Fat Partitioning of Lidocaine in Tumescent Liposuction** Thomas Hagerty, MD
 Petra Klein, RN, MA
Analysis of the tumescent aspirate of eight patients undergoing liposuction demonstrated that lidocaine was partitioned into the fat component preferentially over the fluid component. This suggests that substantially greater quantities of lidocaine are recovered during aspiration than previously estimated on the basis of prior measurements solely on the fluid fraction.

376 **Permanent Lip Augmentation with Serial Fat Grafting** John E. Gatti, MD
A technique of lip augmentation is presented in which trunk fat is aspirated via a needle and syringe, washed, and injected into horizontal tunnels in the lips under local anesthesia. An estimated one half of the fat appears to remain after one month, and most patients require two or three injections to achieve the desired result.

381 **A Comparison of the Long-Pulse and Short-Pulse Alexandrite Laser Hair Removal Systems** William K. Boss, Jr, MD
 Hakan Usal, MD
 Rudolf C. Thompson, MD
 Michael A. Fiorillo, MD
A comparison study of the long-pulse and short-pulse Alexandrite lasers for hair removal was carried out on 18 patients. An equal 60 to 80% reduction in hair growth was noted at six months with both lasers.

385 **Closure of Chronic Abdominal Wall Defects: A Long-term Evaluation of the Components Separation Method** John A. Girotto, MD
 Marcus J. Ko, MD
 Rick Redett, MD
 et al
Thirty-seven patients with recurrent abdominal hernias were repaired with the Ramirez/Dellon components separation technique. Five patients (13.5%) developed recurrence, and eleven (30%) developed infection, usually related to prior enterocutaneous fistula or exposed mesh.

396 **Complications of Tissue Expansion in a Public Hospital** Thomas Youm, MS
 Michael Margiotta, MD
 Armen Kasabian, MD
 Nolan Karp, MD
A review of 34 tissue expanders in 30 patients treated in a New York City public hospital disclosed complications in 22 (65%), resulting in premature removal of 13 expanders. Factors that may have contributed to the high complication rate include problems of language, accessibility, and professional supervision.

403 Ultrasonic Assistance in the Diagnosis of Hand Flexor Tendon Injuries

In eight patients with impaired tendon function, ultrasound evaluation correctly diagnosed rupture in three and intact tendons in five.

Peter T. H. Wang, MD, DMD
John A. Bonavita, MD
Francis X. DeLane, Jr, MD
et al

408 Internal Fixation of Phalangeal Fractures Using Titanium Miniplates

Sixteen phalangeal fractures achieved union following plate fixation via a tendon-splitting dorsal approach. Four plates were removed for pain or triggering, and all but one finger achieved excellent or good joint motion.

Keith S. Berman, MD
Douglas M. Rothkopf, MD
John V. Shufflebarger, MD
Richard Silverman, MD

411 SHAFT Syndrome Revisited

Twenty patients were treated for upper extremity problems with a psychological accompaniment of sadness, hostility, anger, frustration, and tenacity (SHAFT). A nonconfrontational approach of gainful substitution and support is indicated; the temptation to operate should be resisted.

William P. Graham, III, MD
Ann W. Shearer, PT, CHT
Donald R. Mackay, MD
et al

418 Gunshot Wounds to the Hand: Management and Economic Impact

One hundred twenty-one hand fractures from gunshot wounds in 90 patients were treated with irrigation, debridement, elevation, intravenous antibiotics, and early fracture stabilization. The low (2%) infection rate supports an aggressive early fixation approach to civilian low-velocity injuries.

James E. Chappell, MD
Amit Mitra, MD, MS, FRCS(Ed), FACS
Jeremy Weinberger, MD
Laura Walsh, MS, OTR/L, CHT

424 TRAM Fat Necrosis in a Young Surgeon's Practice: Is It Experience, Technique, or Blood Flow?

A review of 50 consecutive single-sided TRAM flaps by a single surgeon in the first five years of practice disclosed fat necrosis in 34% and partial flap loss in 22%. Fat necrosis was more common in pedicled than in free flaps, was most common medially (Zone II), and was directly correlated with obesity.

Ryan P. Jewell, BS
Timothy M. Whitney, MD, FACS

428 Early Experience with SPAIR Mammaplasty: A Useful Alternative to Vertical Mammaplasty

The SPAIR (Short-scar Peri-Areolar Inferior pedicle Reduction) mammaplasty was used in 102 breasts in 61 patients. By transferring part of the vertical scar to the periareolar area, the problem of excessively long vertical scar was ameliorated.

Richard J. Restifo, MD

436 The Aufricht Geometric Breast Reduction Revisited

A 25-year experience with the Aufricht breast reduction is reviewed. Advantages include individual customization, easy reproducibility, and consistency of results.

Norman H. Schulman, MD, FACS

442 Ambulatory Surgery for Cleft Lip Repair

In comparing 11 ambulatory unilateral cleft lip repairs with 13 inpatient repairs, the ambulatory patients fed earlier, had fewer complications, and generated \$1200 less in charges.

Tae Ho Kim, MD
Douglas M. Rothkopf, MD

445 Incidence of Operative Procedures on Cleft Lip and Palate Patients

A chart review of 374 patients operated for cleft lip and palate demonstrated a mean of 3.3 reconstructive procedures and 1.2 otolaryngologic procedures per patient.

Donald Mackay, DDS, MD
Mohamed Mazahari, DDS
William P. Graham, MD
et al

449 Treatment of a Neuroma-in-Continuity of the Peroneal Nerve with Nerve Bypass Grafts—A Case Report

Armen Kasabian, MD
Nolan Karp, MD
Michael Margiotta, MD

452 Correction of Areolar Depression in Postsurgically Treated Gynecomastia Patients

Wesley W. Hall, MD
Edward Park, BA
Luciano Boemi, MD
et al

Editorial

455 And Then There Was One

William D. Morain, MD

Letters

456 Alleviation of Urinary Incontinence After Abdominoplasty

Bruce A. Mast, MD

457 Head and Neck Soft-Tissue Reconstruction Using the Vertical Trapezius Musculocutaneous Flap

Othon Papadopoulos, MD, PhD
Nikola Tsakoniatis, MD, PhD
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458 Carpal Median Nerve Entrapment in a Child Associated with Poland's Syndrome

Christoph Harpf, MD
Anton Schwabegger, MD
Heribert Hussl, MD

459 Alternative Coverage of a Tendon-Exposing Defect of the Dorsum of the Hand with a Triple Rhomboid Flap

Dennis von Heimberg, MD
Hans-Peter Hendricks, MD
Norbert Pallua, MD, PhD

461 Announcements

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Papers of the Northeastern Society of Plastic Surgeons

465 The Pinwheel Technique: An Adjunct to the Periareolar Approach in Gynecomastia Resection **David T. W. Chiu, MD**
Howard W. Siegel, MD
Sixty-one gynecomastic breasts were operated through an intra-areolar approach modified to permit safe excision of as much as 285 grams. Complications included three seromas and a single hematoma.

470 Angiogenesis During Mandibular Distraction Osteogenesis **Norman M. Rowe, MD**
Babak J. Mehrara, MD
Jonathan S. Luchs, MD
et al
In a rat mandible distraction osteogenesis model, an intense vascular response was seen histologically during the early stages of distraction.

476 A Comparison of Gradual Distraction Techniques for Modification of the Midface in Growing Sheep **Randy S. Haluck, MD**
Donald R. Mackay, MD
Paul J. Gorman, MD
et al
In a growing sheep model, distraction osteogenesis across the intact zygomaticomaxillary suture was successful if applied unilaterally but unsuccessful if applied bilaterally. Alternating unilateral distraction ("waltzing") was surprisingly successful in achieving advancement.

481 Gene Expression of Insulin-like Growth Factors I and II in Rat Membranous Osteotomy Healing **Douglas S. Steinbrech, MD**
Babak J. Mehrara, MD
Norman M. Rowe, MD
et al
In a rat mandibular osteotomy model, endogenous upregulation of insulin-like growth factor I and II was maximally expressed seven days following osteotomy and external fixation.

488 Gene-Enhanced Tissue Engineering: Applications for Bone Healing Using Cultured Periosteal Cells Transduced Retrovirally with the BMP-7 Gene **Arnold S. Breitbart, MD, FACS**
Daniel A. Grande, PhD
James M. Mason, PhD
et al
Rabbit periosteal cells were transduced with retroviral vector particles to produce human BMP-7. When these periosteal cells were seeded into PGA matrices and used to repair cranial defects, greater bone repair was seen than with controls.

496 Analysis of TGF- β Production by Fusing and Nonfusing Mouse Cranial Sutures In Vitro **Julide S. Sagiroglu, MD**
Babak J. Mehrara, MD
Dorothy Chau, MD
et al
In a mouse cranial suture model, endogenous upregulation of transforming growth factor beta (TGF- β) was seen in association with suture fusion.

502 Expression of High-affinity Receptors for TGF- β During Rat Cranial Suture Fusion

Immunohistochemical staining of the posterior frontal suture of the rat demonstrated marked increases of TGF β -RI and TGF β -RII in the dura mater and osteoblasts of the sutural margin during active fusion, suggesting an important regulatory function of this growth factor.

Babak J. Mehrara, MD
Douglas S. Steinbrech, MD
Pierre B. Saadeh, MD
et al

509 Human Cartilage Engineering: Chondrocyte Extraction, Proliferation, and Characterization for Construct Development

Cell culture of rib chondrocytes invariably demonstrated cessation of replication by the sixth passage, even when stimulated by various growth factors. This low cell yield remains the greatest obstacle to tissue engineering of cartilage.

Pierre B. Saadeh, MD
Burt Brent, MD
Babak J. Mehrara, MD
et al

514 Hypoxia Upregulates VEGF Production in Keloid Fibroblasts

Cell cultures of human normal and keloid fibroblasts demonstrated similar upregulation of vascular endothelial growth factor (VEGF) production when subjected to hypoxia.

Douglas S. Steinbrech, MD
Babak J. Mehrara, MD
Dorothy Chau, MD
et al

521 Salvage of Free Flaps After Secondary Venous Ischemia by Local Delivery of Heparin

In a rat musculocutaneous flap model, local intra-arterial infusion of low-dose heparin produced a significant augmentation of surviving area after a secondary ischemic challenge. The mechanism of this effect of heparin was independent of systemic coagulation.

Richard E. Kirschner, MD
Jun Xu, MD
Billie Fyfe, MD
et al

529 Effects of Topical Nitroglycerin and Flurbiprofen in the Rat Comb Burn Model

In a rat contact burn model, topical application of 2% nitroglycerin or 5% flurbiprofen two and four hours postinjury resulted in preservation of dermal vessel patency in areas of marginal injury adjacent to the burn.

Paul J. Gorman, MD
Greg Saggers, BS
Paul Ehrlich, PhD
et al

Original Articles

533 The Efficacy of Single-Stage Surgical Management of Multiple Pressure Sores in Spinal Cord-Injured Patients

One hundred twenty spinal cord-injured patients underwent one-stage surgical management of multiple pressure ulcers. These patients had hospital stays half as long as those operated in multiple stages, received more transfusions, and had equivalent late breakdown rates.

Salah Rubayi, MD, FACS
Carlos C. Burnett, MD

540 Use of Reverse Triangular V-Y Flaps to Create a Web Space in Syndactyly

Fourteen syndactyly hands were reconstructed using paired, opposing V-Y island advancement flaps at the base of the releases. All retained satisfactory commissure configurations without distal creep.

Nedim Savaci, MD
Mübin Hoşnute, MD
Zekeriya Tosun, MD

545 Modified Bilateral Advancement Flap: The Slide-in Flap

Circular skin defects in 10 patients were closed using a modification of the double V-Y advancement flap technique in which the joined leading edges of one flap are inosculated into the other.

Ismail Mithat Akan, MD
Mustafa Gürhan Ulusoy, MD
Bilge Türk Bilen, MD
Mehmetcik Ruşen Kapucu, MD

549 Pharyngeal Flap for Velopharyngeal Incompetence in Patients with Myotonic Dystrophy

Three myotonic dystrophy patients with velopharyngeal incompetence underwent superiorly-based pharyngeal flap surgery with major speech improvement and without encountering cardiorespiratory complications.

A. Amir, MD
Y. Wolf, MD
Y. Ezra, MD
et al

553 Thrombospondin 1 and Its Specific Cysteine–Serine–Valine–Threonine–Cysteine–Glycine Receptor in Fetal Wounds

In a fetal sheep dorsal wound model, expression of thrombospondin 1 (TSP-1), an adhesive glycoprotein, increased sharply in early skin repair, followed by a steep decrease over the next four weeks. In view of the known effects of TSP-1 in cell-to-cell interaction, this activity may contribute to scarless wound healing.

Jeffrey J. Roth, MD
Joanne J. Sung, BS
Mark S. Granick, MD
et al

Case Reports

564 False-Positive Radiographic Diagnosis of Breast Implant Rupture Because of Breast Abscess

James R. Sanger, MD, FACS
Raj Sinha, MD
Alonzo P. Walker, MD

568 A Rare Case of Atypical Eccrine Acrospiroma of the Scalp and a Literature Review

Bradon J. Wilhelm, MD
Eric A. Appelt, BS
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William D. Morain, MD

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571 Re: The Life Span of Silicone Gel Breast Implants

Edward P. Melmed, MD

571 Reply

Cynthia M. Goodman, MD
Victor Cohen, MD
John Thornby, PhD
David Netscher, MD

571 **Re: Eccentric Skin Resection and Purse-string Closure for Skin Reduction With Mastectomy for Gynecomastia** Samuel A. Botta, MD

572 **A Gigantic Epidermal Cyst** Yoshiyasu Itoh, MD
Yoshiharu Ninomiya, MD
Minoru Chishiki, MD
Akira Ishibashi, MD

572 **Postabdominoplasty Hypertension: Augmentation in the Pressure Systems?** R. D. Dickerman, DO, PhD
A. B. Smith, DO
D. Schuster, MD, DDS

574 **Silicone Sheet Usage in Preventing Adhesions in the Neck Region** A. Sina Mengi, MD
R. Erkin Ünlü, MD
Ömer Sensöz, MD

574 **Establishment of Bioskin Bank: How We Do It in Our Hospitals** Minoru Ueda, DDS, PhD
Yukio Sumi, DDS
Ken-ichiro Hata, DDS, PhD

577 **Announcements**

579 **Guidelines for Authors**

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Original Articles

581 **Palatoalveolar Outcome at 18 Months Following Simultaneous Primary Cleft Lip Repair and Posterior Palatoplasty** Lun-Jou Lo, MD
Chiung-Shing Huang, DDS, PhD
Yu-Ray Chen, MD
M. Samuel Noordhoff, MD

Twenty-six children with unilateral cleft lip and palate underwent primary lip repair with (26) and without (20) simultaneous posterior palatoplasty. With the aid of dental models, it was determined that there was a decrease in width of the palatal cleft in all patients over the ensuing 18 months but that posterior palatoplasty did not further influence palatal arch development.

589 **Vacuum-Assisted Closure in the Treatment of Degloving Injuries** John G. Meara, MD, DMD
Lifei Guo, PhD
Jeff D. Smith, MD
et al

Nine degloving injuries in five patients were treated by immediate full-thickness skin grafting from the degloved tissue, using the vacuum-assisted closure device as a dressing. Graft take was satisfactory, in part because of the uniform pressure and immobilization achieved by the device.

595 Free Flap Reconstruction of the Foot, With Invited Discussion by Thomas R. Stevenson, MD

Seventy-seven free flap reconstructions of the foot were performed with a 95% success rate. Muscle flaps with split-thickness skin grafts showed fewer ulcerations in weight-bearing areas than fasciocutaneous flaps; tactile sensation appeared to be non-essential.

Christian Rainer, MD
Anton H. Schwabegger, MD
Thomas Bauer, MD
et al

608 Consideration of the UltraPulse Carbon Dioxide Laser as a Tool for Skin Deepithelialization

Using a rat TRAM flap model, the ultrapulse CO₂ laser performed excellent deepithelialization with minimal destruction of surrounding tissues.

Geoffrey G. Hallock, MD
David C. Rice, BS

613 Utility of Vibration Thresholds in Patients With Brachial Plexus Nerve Compression

Vibration thresholds were tested in 35 patients with brachial plexus nerve compression and in 40 control subjects. Although specificity values were high, the sensitivity was sufficiently modest that the vibrometer is not recommended as a screening device.

Ann Marie Dale, OT, MS
Christine B. Novak, PT, MS
Susan E. Mackinnon, MD

619 The Michigan Hand Outcomes Questionnaire (MHQ): Assessment of Responsiveness to Clinical Change

Ninety-two patients with chronic hand disorders completed the Michigan Hand Outcomes Questionnaire before and 6–18 months after treatment. Significant correlations were found between patients' self-assessment of change and all six scale scores of the questionnaire.

Kevin C. Chung, MD
Jennifer B. Hamill, MPH
Madonna R. Walters, MS, RN
Rodney A. Hayward, MD

623 Septic Arthritis of the Metacarpophalangeal and Interphalangeal Joints of the Hand, With Invited Discussion by C. Lin Puckett, MD

Early postoperative mobilization was added to the standard treatment regimen for 28 patients with septic arthritis of the metacarpophalangeal and interphalangeal joints. Good functional results were seen unless an accompanying traumatic joint injury was present or the patient presented more than 10 days after onset.

A. Mark Boustred, FRCS(Ed), FCS(SA)
Martin Singer, FRCS
Don A. Hudson, MMed, FRCS(Ed),
FCS(SA)
Glyn E. Bolitho, PhD, FCS(SA)

630 Gracilis Muscle: Arterial and Neural Basis for Subdivision

An injection study of 14 cadavers disclosed a high degree of consistency of the neurovascular anatomy of the gracilis muscle, with the obturator nerve splitting within the muscle and running longitudinally. The artery divides into four or five branches shortly after entering the muscle and supplies all but the distal 15%.

Steven F. Morris, MD, MSc, FRCS(C)
Daping Yang, MD

634 Repair of Mild Umbilical Hernia

A new method of umbilical hernia repair is presented in which the redundant skin pouch is inverted and sutured 3–4 cm inferior to the navel to produce inferior hooding.

Susam Park, MD
Yuiro Hata, MD
Osamu Ito, MD
et al

638 Modifications in Endoscopic Facelifts

Seventy-two patients underwent endoscopic upper and middle facelift procedures using biplanar endoscopic dissection in both subgaleal and subcutaneous planes. A 1-cm galeal strip was excised to achieve a more stable forehead lift; midface lift and malar fat pad fixation were achieved through a lower blepharoplasty incision.

Muzaffer Çelik, MD
Serhat Tuncer, MD
Ismail Buyukcayir, MD

644 Reverse U-Shaped Split Temporalis Musculofascial Flap in Cranial Base Reconstruction

Following neurosurgical resections in the frontal fossa, the frontal and ethmoid sinuses were satisfactorily covered using temporalis musculofascial flaps that were subtotally split to gain extended arcs of rotation.

Jiro Maegawa, MD
Masakuni Saito, MD
Hiroki Ogino, MD
Isao Yamamoto, MD

651 A New Predictive Modality of Cranial Bone Thickness

A-mode ultrasonic measurements of four skull-thickness points were carried out on anesthetized pigs and the accuracy confirmed with the sagittal saw and calipers. Correlation was within an average difference of only 0.31 mm, supporting the use of this technique to determine skull thickness clinically.

Mohammed M. Elahi, MD, MSc, FRCSC
Kenneth L. Watkin, PhD
M. Suheil Hakim, MEng
et al

658 Esophageal Reconstruction by Jejunal Transfer

Forty-five esophageal reconstructions were performed using free or pedicled transfers of jejunal segments with only one failure that resulted from tearing of a mesenteric arcade. Complications included two abscesses with subcutaneous passage and two intrathoracic hernias with retrosternal passage.

Jin-Lin Huang, MD
Zhen-Quan Duan, MD
Li-Yang, MD
et al

662 Influence of Radiation on Late Complications in Patients With Free Fibular Flaps for Mandibular Reconstruction

Among 140 patients undergoing fibula flap mandible reconstruction, the complication rate was the same for preoperative and postoperative radiation regimens. Complications were lower in unirradiated patients.

Mark Deutsch, MD
Stephen S. Kroll, MD
Nancy Ainsle, RN
Baoguang Wang, MD, PhD

665 Evaluation of Results and Treatment Variables for Pressure Ulcers in 48 Veteran Spinal Cord-Injured Patients

A retrospective 5-year study of 48 spinal cord injury patients with pressure ulcers demonstrated that (1) patients with sacral ulcers were hospitalized longer, (2) patients with new ulcers had shorter stays than those with recurrent ulcers, (3) wound separation delayed sitting, (4) patients previously operated began sitting sooner, and (5) chronic smokers received longer antibiotic regimens.

Cynthia M. Goodman, MD
Victor Cohen, MD
Arturo Armenta, BS
et al

673 Stabilization of Fibrin–Chondrocyte Constructs for Cartilage Reconstruction

Cell cultures of cartilage in fibrin gel were shown to be better stabilized when fibrinolytic inhibitors were added, leading to viable constructs with a three-dimensional extracellular matrix.

Johann Meinhart, PhD
Martin Fussenegger, MD
Walter Höbling, MD

Case Reports

679 Lymphoscintigraphy With Sentinel Lymph Node Biopsy in Cutaneous Merkel Cell Carcinoma

Kent U. Sian, MD
Jeffrey D. Wagner, MD
Rajiv Sood, MD
et al

683 Extent of Surgical Intervention in Primary Soft-Tissue Aspergillosis

Jeffrey R. Marcus, MD
Frank J. Palella, MD
Anjana V. Yaldandi, MD
Gregory A. Dumanian, MD

688 Reconstruction of Full-Thickness Lower Eyelid Defects Using a Blepharoplasty Technique With a Hard Palate Mucosal Graft

Mitsuo Hatoko, MD
Masamitsu Kuwahara, MD
Aiko Shiba, MD
et al

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693 Surgical Correction of Cryptotia Using Medpor

Dae Young Kim, MD
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Taner Korkut, MD
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702 Unusually Shaped Epidermoid Cyst

Shinya Yoshimoto, MD
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Danino Alain, MD
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703 Application of a Sartorius Muscle Flap During Abdominal Wall Reconstruction

Ali Teoman Tellioglu, MD
Orkan Karabag, MD

705 One-Stage Coverage of a Large Anterior Chest Wall Defect With Multiple Flaps in an Octogenarian With Recurrent Sternal Chondrosarcoma

Mustafa Tercan, MD
Omer Soysal, MD
Mustafa Sahin, MD

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